

2023 SPACE WEATHER SUMMER SCHOOL LECTURE SERIES

DRAFT SCHEDULE

General information:

- **Contact person: Gian Luca Delzanno, T-5, delzanno@lanl.gov, 505-289-6343.
Office: TA-03, building 410, room 165A**
- **All times are in Mountain Daylight Saving Time**
- **Location: unless otherwise noted, all events will be in room 203A at the Research Park (TA-03, building 4200; basically behind Hot Rocks Java Café). Note that the lectures are in-person (except for three) and will not be broadcasted over WebEx**
- **ACTION ITEM for lecturers: please send your slides to Gian Luca Delzanno ahead of your lecture.**

Part 1: The magnetosphere: a system of interacting parts

Prerequisites: download and familiarize with the OMNI dataset

Part 2: Anatomy of a space mission

Part 3: Los Alamos National Laboratory: history, opportunities, careers

CALENDAR

Tue June 6th. 9:30-11:00 AM

Orientation: safety, security, taxes, .. at Center for Non Linear Studies (TA-03, building 1690, conference room – see map)

General overview of the magnetosphere as a system of systems

Tue June 6th. 2:00-3:30 PM

Welcome and Introduction to the lectures. Gian Luca Delzanno

Part 1-1: **The geography of the magnetosphere.** Joe Borovsky

Wed June 7th. 10:00-11:00 AM. Part 1-2: **The driving of the magnetosphere.** Joe Borovsky

Thu June 8th. 10:00-11:00 AM. Part 1-3: **The interactions in the magnetosphere.** Joe Borovsky

The various interacting parts of the magnetosphere:

Fri June 9th. 10:00-11:00 AM. Part 1-4: **The solar wind.** Joe Borovsky

June 11th-16th GEM WORKSHOP in San Diego, CA, USA

Mon June 19th. 10:00-11:00 AM. Part 1-5: **Solar wind-magnetosphere coupling.** Ari Le

Mon June 19th, 2:00 PM-3:00 PM. Part 3-1. Meet two early career scientists: Kathleen Weichman and Roxanne Tutchtou

Tue June 20th, 8:30 AM-12:30 PM. Part 3-2: **LANSCE Tour**, Matthew Murray
(Directions will be sent separately)

Wed June 21st, 10:00-11:00 AM Cold Plasma Seminar by Yuri Shprits (virtual)

Thu June 22nd. 10:00-11:00 AM. Part 1-6: **Tail reconnection.** Adam Stanier (virtual)

Thu June 22nd, 2:00-4:00 PM. Part 3-3: **The Manhattan Project.** Alan Carr. Location: Physics Auditorium (TA-03, Building 215, Room 182)

Fri June 23rd. 9:00-10:30 AM. Exercise 1: Introduction to CCMC

Friday June 23rd 1:00-1:30 PM. Part 3-4. Meeting with John Sarrao. Location: second floor of the library (to be confirmed).

Mon June 26th, 10:00-11:00 AM. Part 3-5: **A Brief History of the Lab at Los Alamos.** Madeline Whitacre. Location: Fuller Lodge in downtown Los Alamos (to be confirmed)

Tue June 27th. 10:00-11:00 AM. Part 1-7: **Particle motion and adiabatic invariants.** Mike Henderson

Tue June 27th. 2:00-3:00 PM. Part 1-8: **Inner magnetosphere and radiation belts (general perspective and RBSP)**. Geoff Reeves

Wed June 28th. 10:00-11:00 AM. Part 1-9: **The radiation belts (data and modeling)**. Steve Morley

Wed June 28th. 2:00-3:00 PM. Part 1-10: **The ring current**. Vania Jordanova

Thu June 29th. 10:00-11:00 AM. Part 1-11: **The plasmasphere**. Mike Henderson

Thu June 29th. 2:00-3:00 PM. Part 1-12: **The ionosphere**. Erin Lay

Fri June 30th. 9:00-10:30 AM. Exercise 2: For a day that is important to you, what was the solar wind doing and what was the reaction of the magnetosphere?

Magnetospheric system science

Wed July 5th. 10:00-11:00 AM. Part 1-13: **Introduction to system science**. Joe Borovsky

Thu July 6th. 10:00-11:00 AM. Part 1-14: **System science and the future of space science?** Joe Borovsky

Fri July 7th. 9:00-10:30 AM. Exercise 3: present the correlation analysis of solar-wind/magnetosphere coupling for a year that is important to you: what drives what?

Mon July 10th, 10:00-11:30 AM. Part 3-6: **Beyond the Moon**. Alan Carr (virtual)

Tue July 11th, 10:00-11:30 AM. Part 3-7: **Overview of space physics at LANL**. Dan Reisenfeld

Wed July 12th, 10:00-11:30 AM. Part 3-8: **Overview of ChemCam Discoveries in Gale Crater, Mars**. Patrick Gasda

Thu July 13th. 10:00-11:00 AM. Part 2-1: **The hidden magnetosphere and its mysteries**. Gian Luca Delzanno

Thu July 13th. 2:00-3:00 PM. Part 3-9. Meeting with Eric Dors

Fri July 14th. 9:00-10:30 AM. Exercise 4: Analyzing CCMC results

Mon July 17th, 10:00-11:30 AM. Part 3-10: **Project Y Spies: 'I Love New York' Edition**. Alan Carr (virtual)

Tue July 18th. 10:00-11:00 AM. Part 2-2: **Spacecraft charging**. Gian Luca Delzanno

Wed July 19th. 10:00-11:00 AM. Part 2-3: **Why it is hard to measure the hidden magnetosphere and how can we do it?** Gian Luca Delzanno

Thu July 20th. 10:00-11:00 AM. Part 2-4: **Building a particle instrument for cold plasma measurements.** Carlos Maldonado

Fri July 21st. 10:00-11:00 AM. Part 2-5: **Space mission concept(s).** Gian Luca Delzanno

Student presentations

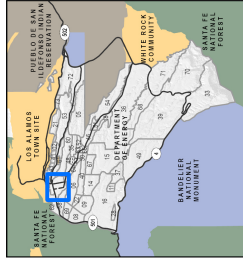
Mon July 24th. 9:00 AM-12:00 PM

Tue July 25th. 9:00 AM-12:00 PM

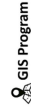
Wed July 26th. 9:00 AM-12:00 PM

Thu July 27th. 9:00 AM-12:00 PM

TECHNICAL AREA 3



LA-UR-23-25598



GIS Program Map Number: 19-001-16 May 2023

